SunLong Biotech Co.,LTD
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Rabbit Anti-Collagen I antibody

SL10423R

Product Name	Collagen I
Chinese Name	I 型 Collagen protein/Collagen protein1/1 型 Collagen protein/I 型胶原 a1 抗体
Alias	Collagen type I; Alpha 1 type I collagen; Alpha 2 type I collagen; COL1A1; COL1A2; Collagen polypeptide; Collagen I alpha 2 polypeptide; Collagen Of Skin Tendon And Bone; Collagen Typ type I alpha 1; Collagen type I alpha 2; OI4; Osteogenesis Imperfecta Type IV; Pro alpha 1(I) co procollagen; CO1A1_HUMAN.
Research Area	Tumour Cell biology immunology
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse,Rat
Applications	WB=1:500-2000,IHC-P=1:500-1000,IHC-F=1:500-1000,ICC/IF=1:100-500,IF=1:500-1000,Flo （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	130kDa
Cellular localization	Extracellular matrix Secretory protein
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Collagen I: 1051-1150/1464
Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or d applications.

PubMed

PubMed

Collagens are highly conserved throughout evolution and are characterised by an uninterrupted '
triplet repeat that is a necessary part of the triple helical structure. Type I collagen (95 kDa) is fo
cornea, skin and tendon. Mutations in the encoding gene are associated with osteogenesis imperf
Danlos syndrome, and idiopathic osteoporosis. Reciprocal translocations between chromosomes
this gene and the gene for Platelet-derived growth factor beta are located, are associated with a p
skin tumor called dermatofibrosarcoma protuberans, resulting from unregulated expression of th

Product Detail

Function:
Type I collagen is a member of group I collagen (fibrillar forming collagen).

Subunit:
Trimers of one alpha 2(I) and two alpha 1(I) chains. Interacts with MRC2. Interacts with TRAM
Location : Secreted, extracellular space, extracellular matrix.

Subcellular Location:
Secreted, extracellular space, extracellular matrix.

Tissue Specificity:
Forms the fibrils of tendon, ligaments and bones. In bones the fibrils are mineralized with calcium

Post-translational modifications:
Proline residues at the third position of the tripeptide repeating unit (G-X-P) are hydroxylated in s
chains. Proline residues at the second position of the tripeptide repeating unit (G-P-X) are hydroxy
the chains.
O-linked glycan consists of a Glc-Gal disaccharide bound to the oxygen atom of a post-translatio
hydroxyl group.

DISEASE:
Defects in COL1A1 are the cause of Caffey disease (CAFFD) [MIM:114000]; also known as inf
hyperostosis. Caffey disease is characterized by an infantile episode of massive subperiosteal new
that typically involves the diaphyses of the long bones, mandible, and clavicles. The involved bo
appear inflamed, with painful swelling and systemic fever often accompanying the illness. The b
usually begin before 5 months of age and resolve before 2 years of age.
Defects in COL1A1 are a cause of Ehlers-Danlos syndrome type 1 (EDS1) [MIM:130000]; also
Ehlers-Danlos syndrome gravis. EDS is a connective tissue disorder characterized by hyperexten
atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS1 is the severe form of
Ehlers-Danlos syndrome.
Defects in COL1A1 are the cause of Ehlers-Danlos syndrome type 7A (EDS7A) [MIM:130060]
autosomal dominant Ehlers-Danlos syndrome type VII. EDS is a connective tissue disorder char
hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS7
bilateral congenital hip dislocation, hyperlaxity of the joints, and recurrent partial dislocations.
Defects in COL1A1 are a cause of osteogenesis imperfecta type 1 (OI1) [MIM:166200]. A domi
connective tissue disorder characterized by bone fragility and blue sclerae. Osteogenesis imperfe

non-deforming with normal height or mild short stature, and no dentinogenesis imperfecta.
Defects in COL1A1 are a cause of osteogenesis imperfecta type 2 (OI2) [MIM:166210]; also kn
osteogenesis imperfecta congenita. A connective tissue disorder characterized by bone fragility,
perinatal fractures, severe bowing of long bones, undermineralization, and death in the perinatal
respiratory insufficiency.
Defects in COL1A1 are a cause of osteogenesis imperfecta type 3 (OI3) [MIM:259420]. A conn
disorder characterized by progressively deforming bones, very short stature, a triangular face, se
grayish sclera, and dentinogenesis imperfecta.
Defects in COL1A1 are a cause of osteogenesis imperfecta type 4 (OI4) [MIM:166220]; also kn
osteogenesis imperfecta with normal sclerae. A connective tissue disorder characterized by mod
stature, mild to moderate scoliosis, grayish or white sclera and dentinogenesis imperfecta.
Genetic variations in COL1A1 are a cause of susceptibility to osteoporosis (OSTEOP) [MIM:16
known as involutional or senile osteoporosis or postmenopausal osteoporosis. Osteoporosis is ch
reduced bone mass, disruption of bone microarchitecture without alteration in the composition o
Osteoporotic bones are more at risk of fracture.
Note=A chromosomal aberration involving COL1A1 is found in dermatofibrosarcoma protuberan
t(17;22)(q22;q13) with PDGF.

Similarity:
Belongs to the fibrillar collagen family.
Contains 1 fibrillar collagen NC1 domain.
Contains 1 VWFC domain.

SWISS:
P02452

Gene ID:
1277

Database links:
Entrez Gene: 1277 Human

ıtrez Gene: 12842 Mouse

ıtrez Gene: 100008952 Rabbit

ıtrez Gene: 29393 Rat

mim: 120150 Human

vissProt: P02453 Cow

vissProt: O46392 Dog

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vissProt: P02452 Human

vissProt: P11087 Mouse

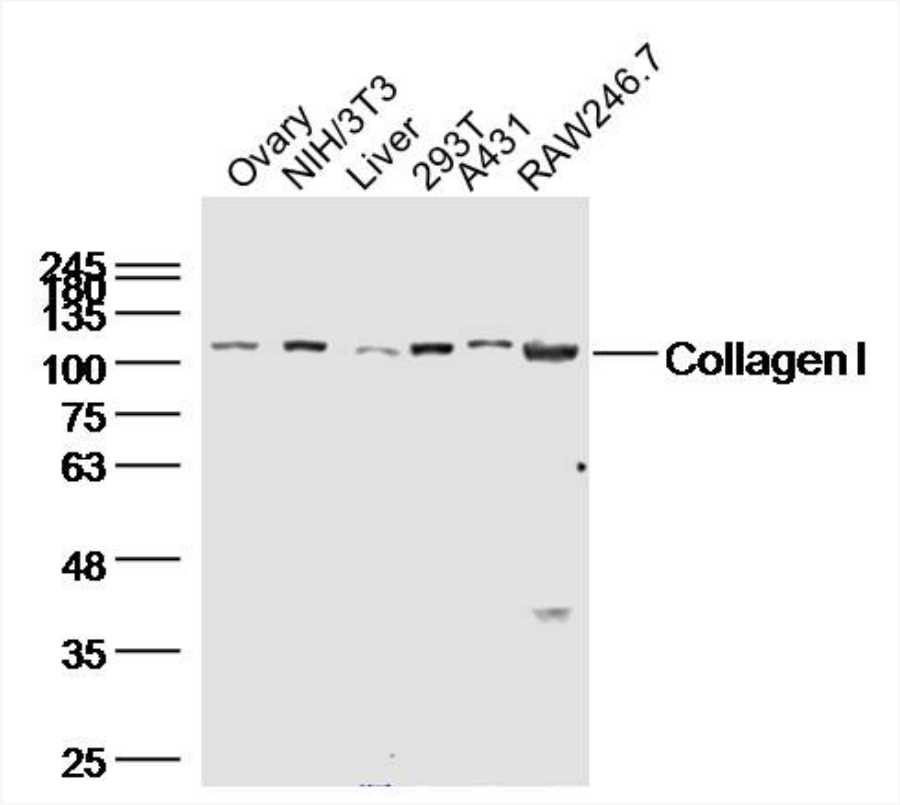
vissProt: P02454 Rat

nigene: 172928 Human

nigene: 277735 Mouse

nigene: 107239 Rat

Product Picture



Sample:

Ovary (Mouse) Lysate at 40 ug

NIH/3T3(huamn) Cell Lysate at 40 ug

Liver (Rat)Lysate at 40 ug

293T(huamn) Cell Lysate at 40 ug

A431(huamn) Cell Lysate at 40 ug

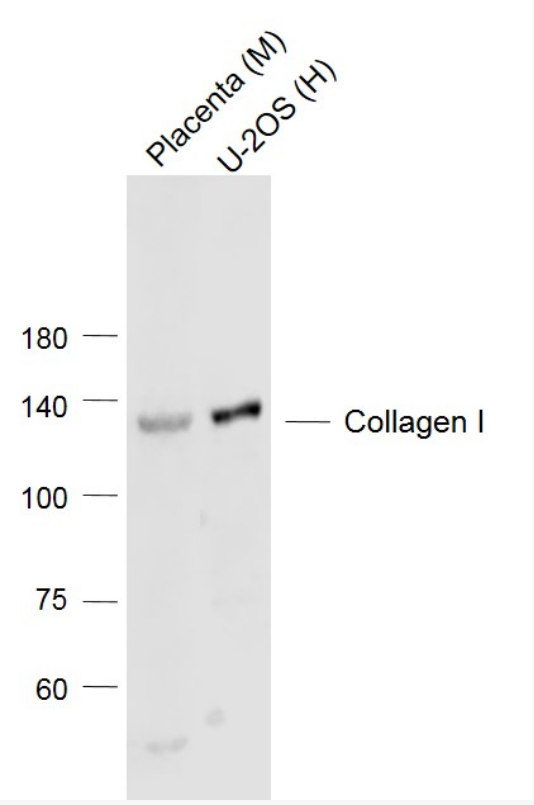
RAW264.7(huamn) Cell Lysate at 40 ug

Primary: Anti-Collagen I (SL10423R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 95 kD

Observed band size: 110 kD



Sample:

Lane 1: Placenta (Mouse) Lysate at 40 ug

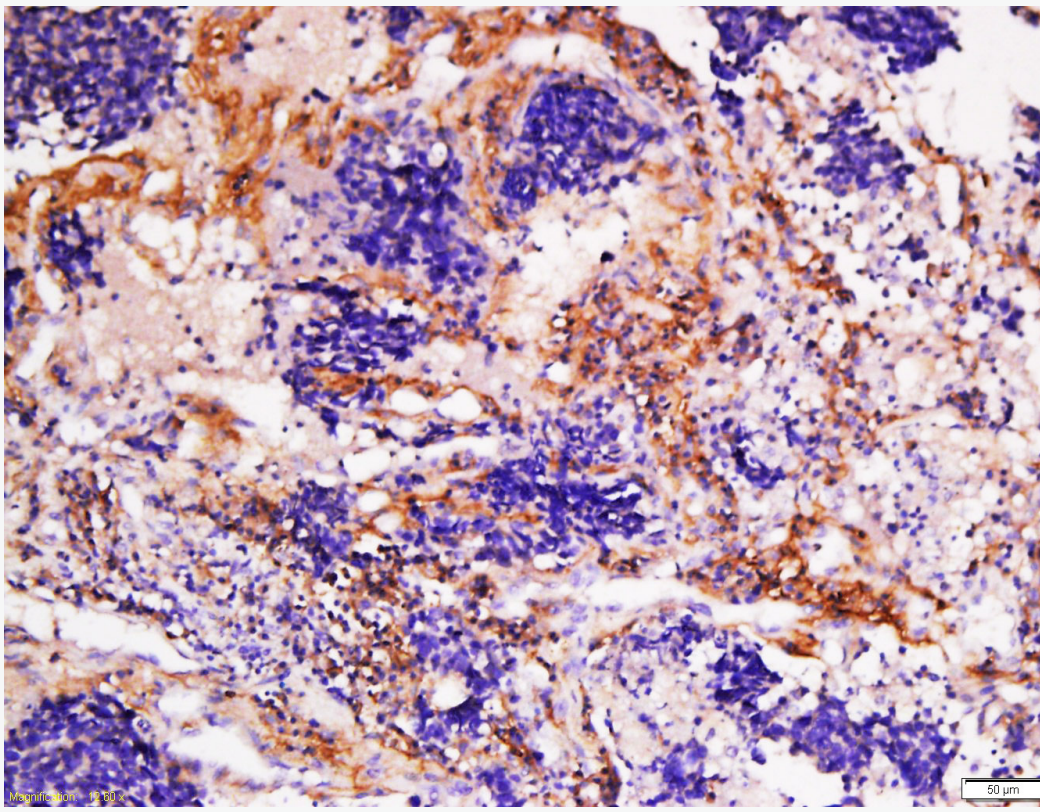
Lane 2: U-2OS (Human) Cell Lysate at 30 ug

Primary: Anti-Collagen I (SL10423R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 130’110 kD

Observed band size: 130 kD



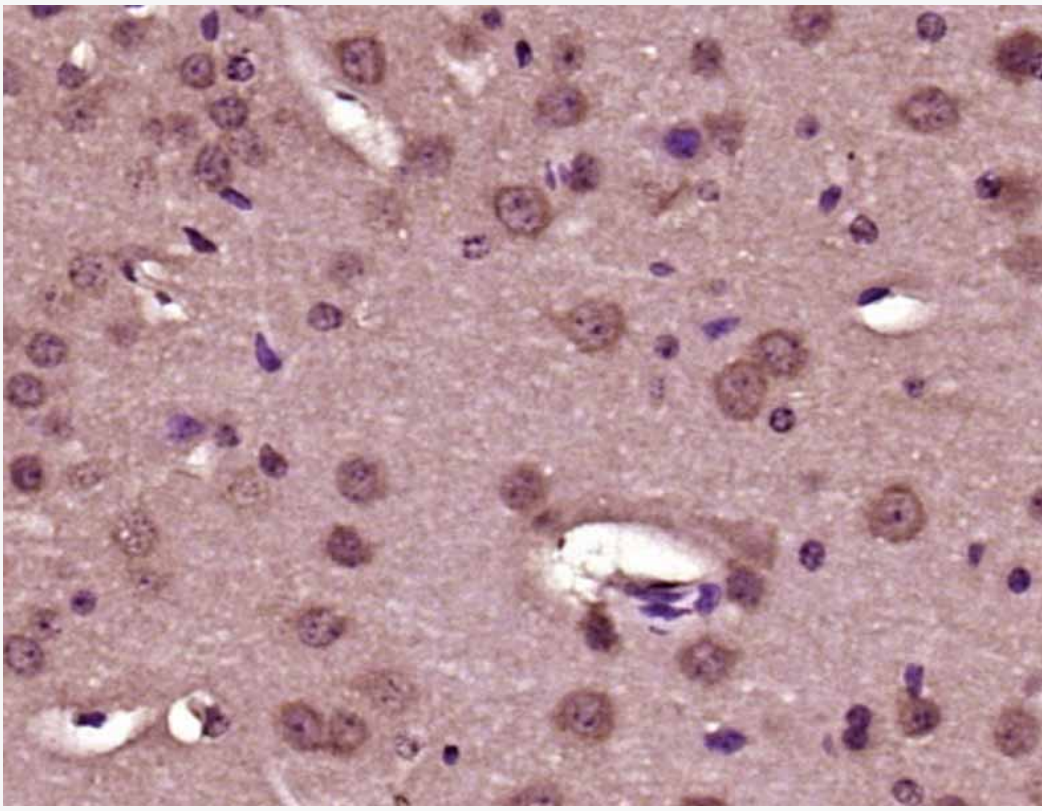
Tissue/cell: human lung carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous

3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 2

Incubation: Anti-Collagen I Polyclonal Antibody, Unconjugated(SL10423R) 1:200, overnight

followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in so buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Collagen I) Polyclo Unconjugated (SL10423R) at 1:400 overnight at 4°C, followed by operating according to SP I (sp-0023) instructionsand DAB staining.

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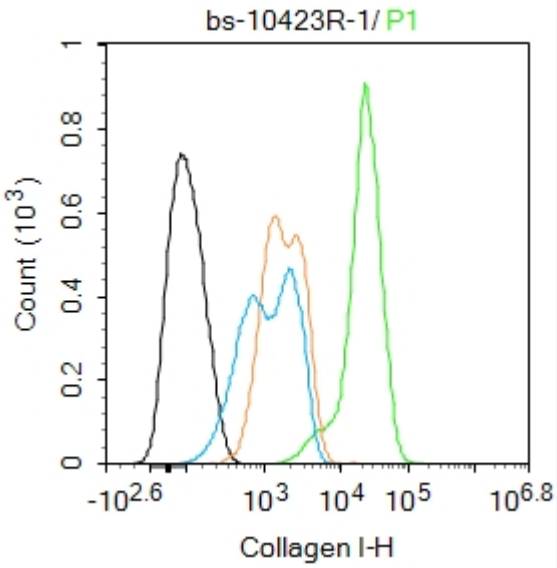

Blank control:Hela.

Primary Antibody (green line): Rabbit Anti-Collagen I antibody (SL10423R)

Dilution: 1ug/Test;

Secondary Antibody : Goat anti-rabbit IgG-FITC

Dilution: 0.5ug/Test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 9

methanol for 20 min at -20℃.The cells were then incubated in 5%BSA to block non-specific p

interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min a

temperature.The secondary antibody used for 40 min at room temperature.Acquisition of 20,0

performed.